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November 13, 2013

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street S.W.
Washington D.C. 20554

Re: NextNav, LLC
Permitted Oral *Ex Parte* Notice
PS Docket No. 07-114

Dear Ms. Dortch:

On November 8, 2013, representatives of NextNav, LLC ("NextNav"), met with two of the Commissioners and their staffs to discuss the significant progress that has been made in the development of indoor location technologies to support wireless calls to E911 emergency first responders. In 2010, the Commission concluded that its wireless location accuracy rules should be applied only to wireless calls made from outdoor locations pending further study of indoor location capabilities.[1] As discussed during the meetings, given the significant investigation and development that has since been conducted by the wireless industry, the Commission's Communications Security, Reliability, and Interoperability Council ("CSRIC"), and location technology vendors, it would now be appropriate to adopt a Notice of Proposed Rulemaking proposing the sunset of the exemption for wireless E911 calls made from indoors.

During the first meeting, the NextNav representatives met with Commissioner Ajit Pai and his Chief of Staff, Matthew Berry. During the second meeting, the NextNav representatives met with Commissioner Jessica Rosenworcel and her Senior Legal Advisor, David Goldman. Participating in the meetings on behalf of NextNav were Rajendra Singh, Chairman of the Board for NextNav; Gary Parsons, CEO of NextNav; Bruce Cox, Senior Director, Regulatory & Public Safety for NextNav; and Justin Lilley of TeleMedia Policy Corporation.

[1] *See Wireless E911 Location Accuracy Requirements*, FCC 10-176, Second Report and Order, ¶ 29 (Sept. 23, 2010).

The NextNav representatives noted that while much attention has been placed recently on the CalNENA study and the percentage of wireless E911 calls that carriers deliver to Public Safety Answering Points ("PSAPs") with initial Phase II location information,[2] an issue of equal or greater importance is the accuracy of the Phase II location information from indoor and urban environments. The needs of public safety are not served if the Phase II location information, when provided, constitutes a search ring encompassing multiple city blocks. Public Safety representatives, both in filed comments to the Commission,[3] and in the Public Safety Foreword to the CSRIC Working Group 3 indoor location field test report,[4] have made clear that they require a high yield of very reliable indoor location information that does not substantially exceed 50 meters in horizontal error and includes floor level vertical accuracy in multi-story urban environments.

The NextNav representatives discussed the possible adoption of initial indoor location rules that would mirror the existing outdoor rules, thus extending the current outdoor requirements of within 50 meters for at least 67 percent of wireless calls and within 150 meters for at least 90 percent of wireless calls. The NextNav representatives also discussed the importance of combining horizontal indoor location requirements with rules obligating carriers serving urban and suburban areas to provide vertical indoor location information to support E911 emergency services as well.

Multiple location technology vendors have indicated for the record that their technology can satisfy the 50m/67% and 150m/90% requirements for wireless calls to E911 from indoor

[2] *See* Letter from Danita L. Crombach, ENP, The California Chapter of the National Emergency Number Association, to The Honorable Mignon Clyburn, Chairwoman, Federal Communications Commission, PS Docket No. 07-114 (Aug. 12, 2013).

[3] *See, e.g., Comments of NENA, the E9-1-1 Association*, WT Docket No. 11-49, at 2 (March 22, 2013) (explaining that "[a]ny significant improvement over the current regime of impossibly-large outdoor search rings and indeterminate indoor search rings must be encouraged, whether or not it can reach our ultimate ideal right away"); *Comments of the Minnesota Metropolitan Emergency Services Board and the Minnesota Department of Public Safety*, WT Docket No. 11-49, at 1 (April 18, 2013) (explaining that the "accuracy provided by current E911 location technologies is often dramatically insufficient, providing search rings which can contain multiple city blocks and include thousands of apartments in multistory buildings"); *Comments of the State of Connecticut Department of Emergency Services and Public Protection*, PS Docket Nos. 10-255, 11-153, and 12-333, at 8 (Dec. 12, 2012) (explaining that "the replacement of wire line telephony by wireless devices for many of our citizens has underlined the need for accurate location information inside of buildings, including 'z' axis information").

[4] *See "Indoor Location Test Bed Report*," CSRIC III, Working Group 3, *Public Safety Foreword* at 9 (March 14, 2013) ("*CSRIC Test Bed Report*").

locations. The CSRIC Working Group 3 LBS Report canvassed technology providers and reported to the Commission that many of those vendors indicated that their technologies could satisfy its Phase II handset-based accuracy requirements in indoor locations.[5] CSRIC Working Group 3 also conducted field tests of indoor location technologies in November of 2012, the results of which were published in March 2013.[6] These tests validated the current status of horizontal and vertical accuracy and yield, as well as expected improvements in those results across a wide range of indoor morphologies.

Although NextNav was the only vendor to demonstrate "floor level" vertical location accuracy in the CSRIC test-bed, other location technology vendors have developed vertical indoor location capabilities. The CSRIC LBS Report discussed several technologies capable of providing vertical location accuracy including Observed Time Difference of Arrival technologies,[7] Distributed Access System proximity-based location technologies,[8] and hybrid A-GPS technologies.[9] Further, the underlying approach to NextNav's vertical location capabilities (the use of calibrated miniature pressure sensors in handsets) is a technique numerous other vendors have noted can be supported by their systems as well.[10]

Given these facts, it can be concluded that, within a reasonable deployment or implementation timeline, multiple indoor location technologies and services could support vertical location accuracy requirements in the range of 3 to 5 meters, and horizontal indoor location accuracy requirements of within 50 meters for at least 67 percent of wireless calls and within 150 meters for at least 90 percent of wireless calls. The Commission should additionally expect and require that the accuracy of indoor location technologies continue to improve over

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[5] *See Report – "Leveraging LBS and Emerging Location Technologies for Indoor Wireless E9-1-1*," CSRIC III, Working Group 3, at 21-54 (March 14, 2013) ("*CSRIC LBS Report*") (identifying Navizon's Wi-Fi Access Point location technology, Skyhook's Wi-Fi location technology, NextNav's beacon technology, and CSR's hybrid A-GPS/Wi-Fi technology as all purporting to be capable of satisfying the 50m/67% and 150m/90% requirements for wireless calls from indoor locations.

[6] *See CSRIC Test Bed Report* at 9.

[7] *CSRIC LBS Report* at 37 and 40.

[8] *See id.* at 49.

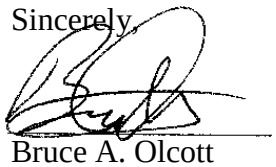
[9] *See id.* at 54.

[10] *Id.* at 53 (noting CSR's use of MEMs pressure sensors for vertical location information); Comments of TruePosition, PS Docket 07-114, et. al, at 24 n.46 (Aug. 6, 2013) (asserting that pressure sensors "can be used with any location technology solution" to provider vertical location information).

time and the Commission's rules for these services should strengthen commensurate with technological capabilities in order to ensure that emergency first responders continue to have access to the most accurate information available to support wireless callers to E911.

Thank you for your attention to this matter. Please contact the undersigned if you have any questions.

Sincerely,



Bruce A. Olcott
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